

M 4.5, 1km SSE of Pleasant Hill, CA

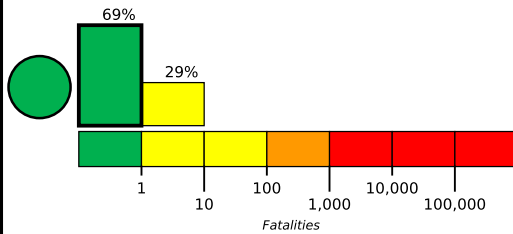
Origin Time: 2019-10-15 05:33:42 UTC (Mon 22:33:42 local)

Location: 37.9375° N 122.0580° W Depth: 14.6 km

FOR TSUNAMI INFORMATION, SEE: tsunami.gov

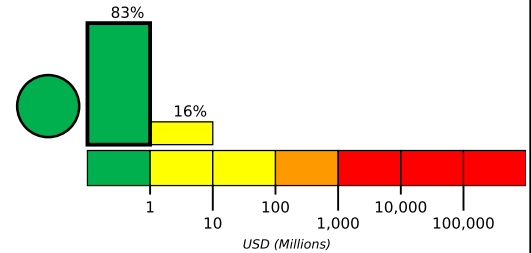
Created: 6 hours, 1 minute after earthquake

Estimated Fatalities



Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

Estimated Economic Losses

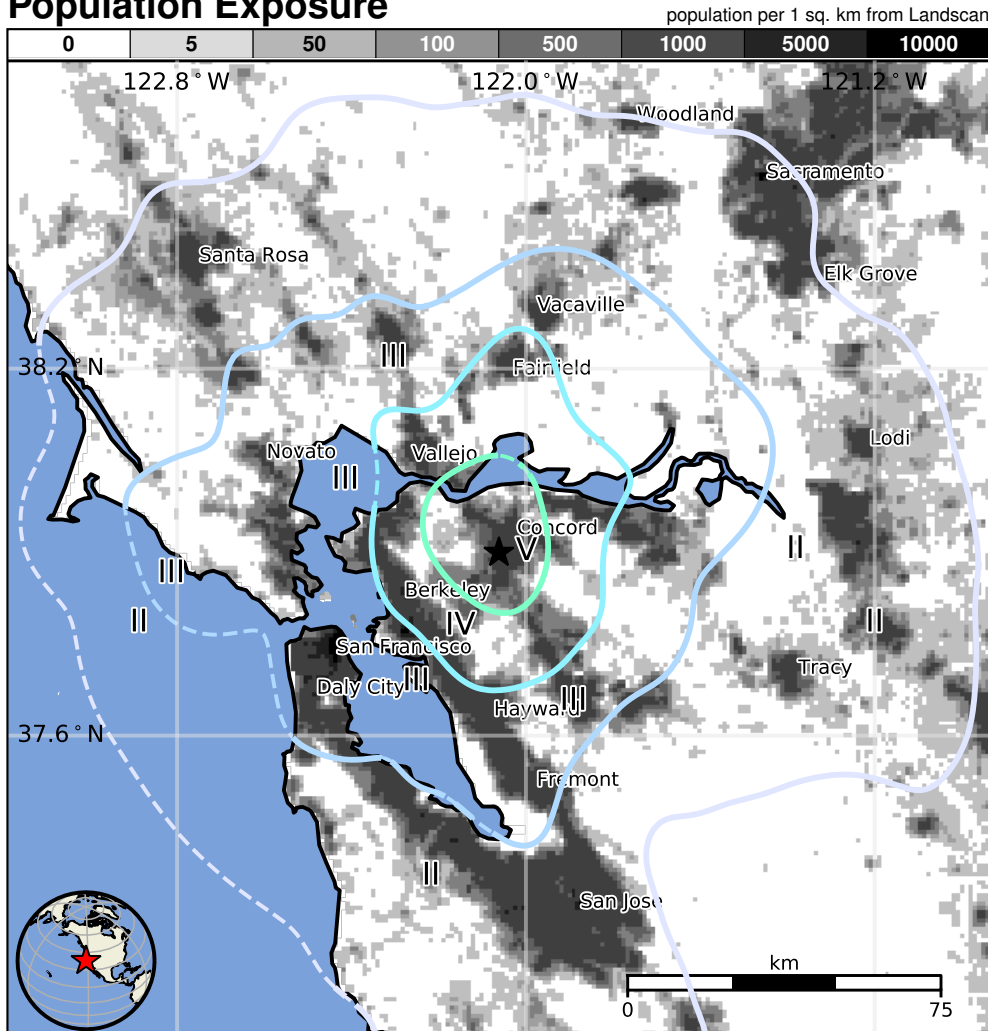


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		1,687k*	7,851k	1,250k	239k	167k	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are highly resistant to earthquake shaking, though some vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
2003-12-22	272	6.6	VI(8k)	2
1980-01-24	38	5.8	VII(35k)	1
1989-10-18	95	6.9	VIII(109k)	62

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VI	Pleasant Hill	33k
VI	Waldon	5k
VI	Walnut Creek	64k
V	Martinez	36k
V	Saranap	5k
V	Pacheco	4k
III	Oakland	391k
III	San Francisco	805k
II	San Jose	946k
II	Stockton	292k
II	Sacramento	466k

bold cities appear on map.

(k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

<https://earthquake.usgs.gov/earthquakes/eventpage/nc73291880/pager>

Event ID: nc73291880